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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules	)	ET Docket No. 98-237
With Regard to the 3650-3700 MHz	)	
Government Transfer Band	)	

COMMENTS OF GE AMERICAN COMMUNICATIONS, INC.

GE American Communications, Inc. ("GE Americom"), by its attorneys and pursuant to 47 C.F.R. §§ 1.415 and 1.419, hereby responds to the Commission's *Notice of Proposed Rulemaking* in the above-referenced proceeding. 1/

INTRODUCTION

GE Americom strongly objects to the *NPRM*'s proposed allocation of the 3650-3700 MHz band to non-Government fixed service. *NPRM* at ¶ 1. The NPRM completely ignores the fact that, working with the Commission in the submittal of International Telecommunications Union ("ITU") documentation, geostationary satellite orbit ("GSO") fixed-satellite service ("FSS") providers have taken steps to use this band for tracking, telemetry, and control ("TT&C") operations involving space stations that operate in bands above the Ku-band. 2/

1/ *In the Matter of Amendment of the Commission's Rules With Regard to the 3650-3700 MHz Government Transfer Band,* ET Docket No. 98-237, *Notice of Proposed Rulemaking,* FCC 98-337 (rel. Dec. 18, 1998) *("NPRM").*

2/ *See In the Matter of Amendment of Parts 2 and 25 of the Commission's Rules to Designate Extended C-band Spectrum for TT&C Functions of GSO FSS Systems*

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The *NPRM* also disregards FSS requirements for the spectrum for service links, needs already demonstrated by pending filings at the ITU by other countries.

The *NPRM* asserts that allocation of the 3650-3700 MHz band to the fixed services is necessary to support Fixed Wireless Access ("FWA") applications. *Id.* However, the *NPRM* overlooks the substantial amount of spectrum already available for wireless alternatives to existing incumbent wireline "local loop" or "last mile" facilities. GE Americom submits that given the current saturation of the conventional C-band, satellite services have a much more compelling need for the 3650-3700 MHz band. We are dismayed that the *NPRM* did not even recognize FSS requirements.

GE Americom is open to consideration of possible sharing options depending upon the technical requirements of terrestrial systems. We reserve judgment, however, as to whether sharing is possible. At a minimum, the Commission should allocate this spectrum in a manner that can be reconciled with the GSO FSS providers' TT&C *Petition*, as well as FSS service requirements.

I. THE *NPRM* IMPROPERLY IGNORES THE SPECTRUM NEEDS OF GSO FSS PROVIDERS.

The *NPRM* correctly points out that, internationally, the 3500-3700 MHz band is allocated to fixed-satellite (space-to-Earth) services on a worldwide, co-primary basis. *Id.* at ¶ 9, n. 3. It is widely understood that the 3600-3650 MHz

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Operating in Bands Above Ku-band, RM No. 9411, *Petition for Rulemaking* (filed Aug. 7, 1997) ("*Petition*").

band is unavailable to either FSS or fixed service licensees because that band is used to support high-powered Governmental fixed and mobile radar operations. *Id.* at ¶ 6. The ITU's allocation of the 3500-3700 MHz band in this manner is highly relevant here. Consistent global spectrum allocations permit international satellite systems to make the most efficient possible use of frequencies. Consistent allocations also reduce the costs of building and operating satellites, including the ability of satellites to provide back-up protection to one another.

It follows that the Commission should think twice (or several times) before deciding to adopt a global satellite allocation in this country. This is all the more true where the demands of satellite operators for the use of that spectrum are already clear.

A. Tracking, Telemetry and Control Requirements.

Over 2½ years ago, a group of nine GSO FSS providers (including GE Americom) representing a broad segment of the U.S. satellite industry jointly filed a Petition for Rulemaking, requesting that the Commission designate 10 MHz of spectrum in both the 3600-3700 MHz band (space-to-Earth) and the 6425-6525 MHz band (Earth-to-space) for TT&C operations for space stations operating above the Ku-band. *Petition* at 1. The *Petition* explained that this designation is necessary to facilitate the successful deployment of future GSO FSS systems in the Ka-band and in higher frequencies. *Id.* at 4.

Although it may be technically feasible to perform TT&C operations in the 30/20 GHz bands and in higher frequencies, the *Petition* explained, not being

able to use 10 MHz of spectrum in the 3600-3700 MHz band (as well as the 6425-6525 MHz band) would place substantial operational constraints on the next generation of satellite systems. 3/ The designation of spectrum requested by the GSO FSS operators therefore was, and remains, critical to the operational success of their Ka-band and other satellites. 4/ Similarly, the United States has filed with the ITU for both Advanced Publication AP4 and Coordination Request APS4 for this spectrum for V/Q band TT&C operations. This spectrum is critical for these operations, as a link to the spacecraft is needed that is less subject to atmospheric and rain attenuation during mission critical maneuvers.

Despite the importance of the 3600-3700 MHz band to GSO FSS operations, the *NPRM* completely ignores the GSO FSS providers' *Petition* and makes no mention of its request. This is both unfair and unacceptable. The GSO FSS providers' *Petition* pre-dates the issuance of the *NPRM* by over a year, and every party to comment on the *Petition* supported it. At a minimum, the Commission should incorporate those comments into the record here, and adopt rules that meet GSO FSS TT&C requirements. 5/

3/ *Id.* at 4. The Coalition noted that the 3600-3700 MHZ (space-to-Earth) and 6425-6525 MHz (Earth-to-space) bands are particularly appropriate for GSO FSS use because they are adjacent to traditional C-band FSS frequencies, permitting the use of extremely reliable equipment for TT&C operations involving Ka-band systems and higher frequency GSO FSS satellites. *Id.* at 5.

4/ *See, e.g.,* Comments of Loral Space & Communications, Ltd., RM No. 9411 (filed Dec. 23, 1998) at 2; Comments of Lockheed Martin Corporation, RM No. 9411 (filed Dec. 23, 1998) at 2.

5/ In its *NPRM*, the Commission states that, in an effort to effectuate its proposed allocation of the 3650-3700 MHz band to the fixed services, it will "no

B. *GSO FSS Growth, Including the Possible Accommodation of Foreign Satellite Service Providers.*

It has become abundantly clear in recent years that the conventional C-band is severely congested at key orbital positions over North and South America. One way to alleviate this congestion would be to allocate the extended C-band to satellite service providers for service use. Brazil and INTELSAT, for example, use the extended C-band for service to South America. Similarly, at least one United States FSS provider, Loral, has filed an application with the Commission for permission to use the extended C-band over the Southern Hemisphere. 6/

The extended C-band can also be used to offer services to customers in North America. For example, currently published data shows that at least three non-U.S. satellite service providers -- Intersputnik, Inmarsat and INTELSAT -- have filed at the ITU to use the extended C-band over North America, and it is likely that others have filed, or are preparing to file, as well.

It is imperative that the FCC consider this growing demand -- both foreign and domestic -- for spectrum in the context of this rulemaking. If the Commission does not consider FSS provider needs alongside those of the fixed-

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longer accept applications for [the] use of this band . . . *as of the release date of the [NPRM].*" *NPRM* at ¶ 2 (emphasis added). Presumably, applications pre-dating the release date of the *NPRM* will be considered because they were filed before the Commission announced its plans for the 3650-3700 MHz band. In light of the fact that the GSO FSS providers filed their application for this spectrum eighteen months before the *NPRM* was issued, equity demands that their request also receive due consideration.

6/ *See* File No. 126-SAT-P/LA-96.

wireless services, it is unclear how the Commission will be able to deal with the increasing need for spectrum to accommodate the satellite services. The fact that foreign satellite companies have already registered through the ITU to use this spectrum further complicates the allocation crisis. Consideration of satellite service provider needs is therefore critical to the Commission's spectrum management decisions.

II. THERE IS NO NEED TO ALLOCATE ADDITIONAL SPECTRUM TO THE FIXED SERVICES AT THIS TIME.

The *NPRM* is flawed in another respect. Not only does the *NPRM* ignore compelling FSS spectrum requirements, it also exaggerates terrestrial fixed service needs and disregards alternative terrestrial service options.

The *NPRM* proposes to allocate the 3650-3700 MHz band to the fixed services to accommodate developing wireless services such as FWA. *NPRM* at ¶ 1. FWA -- which is also known as "Wireless Local Loop" -- would enable end users to connect to the Public Switched Telephone Network through wireless alternatives to the landline local loop. *See id.* at ¶ 6. It also may bring residential and small business customers broadband access to various types of high speed data and video services, including video conferencing and Internet access. *Id.*

However, the *NPRM* seeks to allocate the 3650-3700 MHz band to FWA and other fixed-wireless services without adequately addressing whether this allocation is needed. The Commission already has appropriated a significant portion of the spectrum to broadband local wireless providers, including Local

Multipoint Distribution Service (LMDS) providers, 39 GHz licensees, and licensees in the 24 GHz band. 7/ The Commission has also recently modified its rules for Multipoint Distribution Service (MDS) and Instructional Television Fixed Service (ITFS) to make this spectrum more flexible for last mile use. 8/ Additionally, it is widely expected that the spectrum used for cellular service and Personal Communication Services ("PCS") will support fixed local loop applications in the near future.

In light of the many portions of the spectrum that can accommodate the next generation of fixed-wireless services, it stands to reason that the *NPRM*'s proposed allocation of the 3650-3700 MHz band would be unjustified even in the absence of compelling FSS satellite requirements. The allocation to fixed-wireless services is even less appropriate when it is not even certain that FWA is technically

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7/ *See, e.g., In the Matter of Amendment of the Commission's Rules to Relocate the Digital Electronic Message Service From the 18 GHz Band to the 24 GHz Band and to Allocate the 24 GHz Band for Fixed Service,* ET Docket No. 97-99, *Memorandum Opinion and Order,* 13 FCC Rcd 15147 (1998); *In the Matter of Rulemaking to Amend Parts 1, 2, 21 and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, To Reallocate the 29.5-30.0 GHz Frequency Band, and to Establish Rules and Policies for Local Multipoint Distribution Services and for Fixed Satellite Services, et al.,* CC Docket No. 92-297, *et al., Second Report and Order, Order on Reconsideration and Fifth Notice of Proposed Rulemaking,* 12 FCC Rcd 12545 (1997); *In the Matter of Amendment to the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Band, et al.,* ET Docket No. 95-183, RM No. 8553, *et al., Report and Order and Second Notice of Proposed Rulemaking,* 12 FCC Rcd 18600 (1997).

8/ *See In the Matter of Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions,* MM Docket No. 97-217, RM No. 9060, *Report and Order,* FCC 98-231 (rel. Sept. 25, 1998).

and commercially viable in this particular band. While technical trials are underway, much more work would be needed to determine whether this band can be used in a practical manner.

In short, the *NPRM* fails to analyze whether fixed-wireless services need the 3650-3700 MHz band more than satellite services. As indicated above, satellite service providers require this spectrum to effectuate the smooth operation of their current and next generation systems. The 3650-3700 MHz band is allocated internationally for this purpose. The Commission should incorporate the record developed in RM No. 9411, as well as other demonstrated satellite needs, and weigh them against the abundance of wireless spectrum already available for FWA purposes.

III. THE COMMISSION MUST NOT ALLOCATE ANY OF THE 3650-3700 MHZ BAND FOR TERRESTRIAL USE UNLESS IT FINDS THAT SHARING IS POSSIBLE WITH FSS SATELLITE SERVICES.

Should the Commission decide that the fixed services do in fact need at least some portion of the 3650-3700 MHz band, it must, at a minimum, arrange for them to use this frequency on terms that do not interfere with the TT&C and service requirements of GSO FSS providers. GE Americom does not concede that band sharing is possible. We require more information regarding the technical operations contemplated for the proposed FWA use. However, we are prepared to explore sharing possibilities to maximize the use of this spectrum.

The FSS GSO providers' use of a 10 MHz block for TT&C, for example, could be particularly unobtrusive to the fixed services. TT&C operations involve a

relatively small number of earth stations, and fixed services would not be affected in areas where these earth stations do not exist. Irrespective of how the Commission decides to apportion the 3650-3700 MHz band between GSO FSS providers and the fixed services, it is imperative that the Commission coordinate the two services so that TT&C operations are not subject to interference. This is especially important because TT&C is crucial to maintaining spacecraft operations and recovery from anomalous spacecraft events in emergency situations; the spectrum it uses must therefore be reliable.

However, it is equally important that any terrestrial use not cause harmful interference to other FSS services. It may be possible for FWA applicants to share spectrum with FSS service links depending upon the technical characteristics of FWA systems. Again, GE Americom is not in a position to address this matter without knowing more about the FWA operations. We emphasize, however, that unless FSS operations are able to proceed on a reasonably unimpeded basis, we would strongly oppose allocation of this band for terrestrial use as proposed in the *NPRM*.

Finally, because the Commission intends to allocate the 3650-3700 MHz band to the fixed service on a co-primary basis with incumbent non-Government FSS earth stations and certain Government radiolocation operations from three grandfathered sites, it is critical that these entities also be coordinated with GSO FSS operations. 9/

9/ *NPRM* at ¶ 7.

CONCLUSION

For the reasons stated above, the Commission should reconsider its proposed allocation of the 3650-3700 MHz band to the fixed services, and, instead, should make that spectrum available to GSO FSS providers for TT&C operations and other services involving their current and next generation satellite systems.

Respectfully submitted,

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Dated: February 16, 1999

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I hereby certify that a copy of the foregoing Comments of GE American Communications, Inc. in ET Docket No. 98-237 was served by hand delivery this 16th day of February 1999 to:

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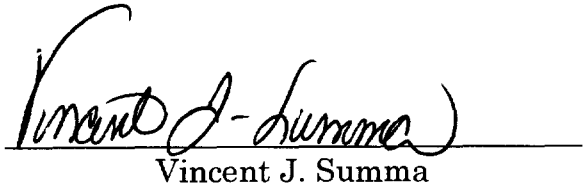

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